

Express Mail No. EK655899015

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of Timothy P. Croughan

Serial No. 09/_____

Filing Date August 22, 2001

Atty. File 98A9-USC1 Croughan

For: Herbicide Resistant Rice

Commissioner for Patents
Box Patent Application
Washington, D.C. 20231

PRELIMINARY AMENDMENT

Dear Sir:

Please amend the application as follows:

In the Specification:

Please cancel the paragraph appearing at page 1, lines 10-12, and insert in its place the following new paragraph:

This is a continuation of application serial number 09/830,194, 35 U.S.C. § 371 date April 23, 2001; which is the United States national stage of international application PCT/US99/26062, filed November 5, 1999; which claims the benefit of the November 5, 1998 filing date of United States provisional application serial number 60/107,255 under 35 U.S.C. § 119(e); the complete disclosures of both of which are hereby incorporated by reference.

Express Mail No. EK655899015

Please cancel the paragraph appearing at page 11, lines 7-21, and insert in its place the following new paragraph:

Samples of the seed harvested from several of these lines of the M_4 progeny; namely, samples of M_5 seed from each of the seven separate lines designated by the inventor as PWC16, PWC23, CMC29, CMC31, WDC33, WDC37, and WDC38; were separately deposited with the American Type Culture Collection (ATCC), 10801 University Boulevard, Manassas, Virginia 20110-2209 on November 2, 1999; and were assigned ATCC Accession Nos. PTA-904, PTA-905, PTA-902, PTA-903, PTA-906, PTA-907, and PTA-908, respectively. Each of these deposits was made pursuant to a contract between ATCC and the assignee of this patent application, Board of Supervisors of Louisiana State University and Agricultural and Mechanical College. Each of the contracts with ATCC provides for permanent and unrestricted availability of these seeds or the progeny of these seeds to the public on the issuance of the U.S. patent describing and identifying the deposit or the publication or the laying open to the public of any U.S. or foreign patent application, whichever comes first, and for the availability of these seeds to one determined by the U.S. Commissioner of Patents and Trademarks (or by any counterpart to the Commissioner in any patent office in any other country) to be entitled thereto under pertinent statutes and regulations. The assignee of the present application has agreed that if any of the seeds on deposit should become nonviable or be lost or destroyed when cultivated under suitable conditions, they will be promptly replaced on notification with a viable sample of the same seeds.

In the Claims:

Please cancel Claims 1-61, and 74.

Please amend Claims 62 and 71 to read as follows:

62. (once amended) A herbicide-resistant rice plant, wherein:

(a) the growth of said herbicide-resistant plant is resistant to inhibition by at least one herbicide that normally inhibits acetohydroxyacid synthase, at levels of the herbicide that would normally inhibit the growth of a rice plant; and

(b) said herbicide-resistant plant is a derivative of a rice plant obtained by exposing rice plants to mutation-inducing conditions; growing rice plants from the exposed plants, or growing rice plants from progeny of the exposed plants, in the presence of at least one herbicide that normally inhibits acetohydroxyacid synthase, at levels of the herbicide that would normally inhibit the growth of a rice plant; and selecting for further propagation rice plants that grow without significant injury in the presence of the herbicide; and

(c) said herbicide-resistant plant expresses a functional acetohydroxyacid synthase that is resistant to inhibition by at least one herbicide that normally inhibits acetohydroxyacid synthase, at levels of the herbicide that would normally inhibit the growth of a rice plant;

provided that excluded from the scope of this Claim is:

(d) a plant that is the plant with ATCC accession number 97523; and any mutant, recombinant, or genetically engineered derivative of the plant with ATCC accession number 97523 or of any progeny of the plant with ATCC accession number 97523; and any plant that is the progeny of any of these plants; wherein these derivatives of the plant with ATCC accession number 97523 that are excluded from the scope of this Claim are those that have the same herbicide resistance characteristics as the plant with ATCC accession number 97523.

Express Mail No. EK655899015

1 **71.** (once amended) A process for imparting herbicide resistance to rice plants, said process
2 comprising the steps of:

3 (a) exposing rice plants to mutation-inducing conditions;

4 (b) growing rice plants from the exposed plants, or growing rice plants from progeny of the
5 exposed plants, in the presence of at least one herbicide that normally inhibits
6 acetohydroxyacid synthase, at levels of the herbicide that would normally inhibit the growth
7 of a rice plant; and

8 (c) selecting for further propagation one or more rice plants that grow without significant
9 injury in the presence of the herbicide; wherein the plants selected for further propagation
10 express a functional acetohydroxyacid synthase that is resistant to inhibition by at least one
11 herbicide that normally inhibits acetohydroxyacid synthase, at levels of the herbicide that
12 would normally inhibit the growth of a rice plant; *and provided that* the rice plant or plants
13 selected for further propagation do not have the herbicide resistance characteristics of the
14 plant with ATCC accession number 97523.

REMARKS

The specification has been amended at page 1 to reflect the procedural history of the priority applications.

The specification has been amended at page 11 to substitute actual American Type Culture Collection accession numbers for several deposited lines of rice seeds, e.g. --PTA-904--, for “placeholders” that were used in the application as filed e.g., “aaaaa”. Seed samples from each of the rice lines in question were deposited with the American Type Culture Collection on November

Express Mail No. EK655899015

2, 1999, prior to the November 5, 1999 international filing date of the “parent” application. However, the ATCC accession numbers had not been received as of the international filing date.

The Claims have been amended by canceling Claims 1-61, and 74; and by amending Claims 62 and 71.

Clarifications have been made in line 20 of Claim 62; these clarifications are not intended to change the scope of Claim 62. (Note: The line number refers to that appearing in the Appendix, which may differ slightly from the line number in the “clean” version of the Claims appearing above.)

Part (c) of Claim 71 has been modified as follows: (1) The limitation has been clarified to recite that “one or more” plants are selected for further propagation. (2) The substance of dependent Claim 74 as originally filed has been incorporated into this limitation. (3) It is specified that the rice plant or plants selected for further propagation do not have the same herbicide resistance characteristics as the plant with ATCC accession number 97523. Basis for this last limitation may be found, for example, in Claim 62 as originally filed.

Claims 62-73, and 75-81 remain in the application.

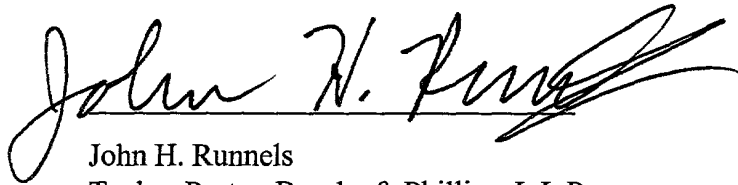
The filing fees were calculated based on the Claims remaining after entry of this Preliminary Amendment.

Express Mail No. EK655899015

The Office's attention is respectfully directed to the enclosed terminal disclaimer.

Allowance of all pending Claims at an early date is respectfully requested.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "John H. Runnels", with a stylized flourish at the end.

John H. Runnels
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August 22, 2001

ENCLOSURE

Appendix -- Marked up Amendments

Specification, page 11, lines 7-21:

Samples of the seed harvested from several of these lines of the M₄ progeny; namely, samples of M₅ seed from each of the seven separate lines designated by the inventor as PWC16, PWC23, CMC29, CMC31, WDC33, WDC37, and WDC38; were separately deposited with the American Type Culture Collection (ATCC), 10801 University Boulevard, Manassas, Virginia 20110-2209 on November 2, 1999; and were assigned ATCC Accession Nos. [aaaaa, bbbbb, ccccc, ddddd, eeeee, fffff, and ggggg,] PTA-904, PTA-905, PTA-902, PTA-903, PTA-906, PTA-907, and PTA-908, respectively. Each of these deposits was made pursuant to a contract between ATCC and the assignee of this patent application, Board of Supervisors of Louisiana State University and Agricultural and Mechanical College. Each of the contracts with ATCC provides for permanent and unrestricted availability of these seeds or the progeny of these seeds to the public on the issuance of the U.S. patent describing and identifying the deposit or the publication or the laying open to the public of any U.S. or foreign patent application, whichever comes first, and for the availability of these seeds to one determined by the U.S. Commissioner of Patents and Trademarks (or by any counterpart to the Commissioner in any patent office in any other country) to be entitled thereto under pertinent statutes and regulations. The assignee of the present application has agreed that if any of the seeds on deposit should become nonviable or be lost or destroyed when cultivated under suitable conditions, they will be promptly replaced on notification with a viable sample of the same seeds.

Claims 62 and 71

62. (once amended) A herbicide-resistant rice plant, wherein:

(a) the growth of said herbicide-resistant plant is resistant to inhibition by at least one herbicide that normally inhibits acetohydroxyacid synthase, at levels of the herbicide that would normally inhibit the growth of a rice plant; and

(b) said herbicide-resistant plant is a derivative of a rice plant obtained by exposing rice plants to mutation-inducing conditions; growing rice plants from the exposed plants, or growing rice plants from progeny of the exposed plants, in the presence of at least one herbicide that normally inhibits acetohydroxyacid synthase, at levels of the herbicide that would normally inhibit the growth of a rice plant; and selecting for further propagation rice plants that grow without significant injury in the presence of the herbicide; and

(c) said herbicide-resistant plant expresses a functional acetohydroxyacid synthase that is resistant to inhibition by at least one herbicide that normally inhibits acetohydroxyacid synthase, at levels of the herbicide that would normally inhibit the growth of a rice plant;

provided that excluded from the scope of this Claim is:

(d) a plant that is the plant with ATCC accession number 97523; and any mutant, recombinant, or genetically engineered derivative of the plant with ATCC accession number 97523 or of any progeny of the plant with ATCC accession number 97523; and any plant that is the progeny of any of these plants; wherein these derivatives of the plant with ATCC accession number 97523 that are excluded from the scope of this Claim are those that [retain] have the same herbicide resistance characteristics as [of] the plant with ATCC accession number 97523.

71. (once amended) A process for imparting herbicide resistance to rice plants, said process comprising the steps of:

(a) exposing rice plants to mutation-inducing conditions;

(b) growing rice plants from the exposed plants, or growing rice plants from progeny of the exposed plants, in the presence of at least one herbicide that normally inhibits acetohydroxyacid synthase, at levels of the herbicide that would normally inhibit the growth of a rice plant; and

(c) selecting for further propagation one or more rice plants that grow without significant injury in the presence of the herbicide; wherein the plants selected for further propagation express a functional acetohydroxyacid synthase that is resistant to inhibition by at least one herbicide that normally inhibits acetohydroxyacid synthase, at levels of the herbicide that would normally inhibit the growth of a rice plant; and provided that the rice plant or plants selected for further propagation do not have the herbicide resistance characteristics of the plant with ATCC accession number 97523.